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**Cleanup Completion Report
Compass Big Blue Site Investigation
(Old GST Steel Mill) Kansas City, MO**

** Note that updates were made to
this draft document on 11-25-03.
Attached are the updated materials.*

*Stephen B. Alford
12-1-03*

**Compass Big Blue, LLC
8116 Wilson Road
Kansas City, MO 64125
November 11, 2003**



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1. Introduction/ Purpose

This report has been prepared by Compass Big Blue, LLC (CBB) for its facility located at 8116 Wilson Rd. in Kansas City, MO (Site). The cleanup completion report for contaminated soils removed or capped within CBB property, specifically SWMU's 8 and 11, 25 and 26 is identified herein. A variety of feasible remedial options were contemplated and analyzed by CBB for site cleanup. CBB implemented its proposed cleanup option identified in the "Recommendation for Cleanup Report, dated August 20, 2003," which is believed to be the best cleanup option for each SWMU mentioned above based on future site reuse. Site cleanup commenced in July 2003 and was completed in October 2003.

2. Problem Definition/Background

The Site is located on approximately 300 acres in northeast Kansas City, Missouri. Land use in the vicinity of the Site is characterized by medium to heavy industrial activity. The property is zoned M2A Heavy Industrial by the city of Kansas City, Missouri. For over the past 100 years the site has been a steel production and manufacturing facility until operations ceased in 2001. Currently the site is undergoing demolition and remediation activities as part of future redevelopment.

Several SWMU's were identified during a RCRA Facility Investigation conducted by a former property owner, AK Steel, during the 1990's. Although the SWMU's were delineated no sound conclusions or cleanup remedies were derived during the former investigations. Three SWMU's were identified on CBB property and were further delineated in June 2003. The SWMU's are herein referred to as SWMU 8 and 11, SWMU 25 and SWMU 26.

3. Project Description

As directed by United States Environmental Protection Agency, Region VII ("EPA") CBB conducted exploratory sampling and analysis of soils at the former GST Steel Mill, which is part of the Site, in June 2003. The results were confirmed by an independent laboratory. The samples were analyzed for lead and cadmium based on qualitative results of the RFI conducted by AK Steel (Burns & McDonnell 1999).

4. Proposed Cleanup Levels

The adult lead uptake-biokinetic model developed by EPA (1996) was used to determine potential risks to on-site workers for lead, and to calculate a final protective cleanup level. The referenced model assumes that the most sensitive worker populations, which may be exposed to lead, are pregnant women and women of childbearing age. It is assumed that the risk lies with the presumed potential for lead uptake by a fetus. Using the adult lead model, workers exposed to soils in areas within SWMU 8 and 11 may be subject to an unacceptable exposure to lead. The risk-based cleanup level for lead in on-site soils developed using the adult lead model is 2,000 ppm.

5. Corrective Measures Implementation

a. Excavation and Off-Site Disposal

SWMU 8 and 11

Excavation and off-site disposal of lead impacted soils from SWMU 8 and 11 was implemented by CBB because it is the most permanent solution for these SWMUs. Surface soils were removed to a minimum depth of 3 inches along the outer edges of SWMU. The upper 6 inches of soil was excavated in an east/west traverse of the baghouse railcar hopper loading areas at SWMU 8 and 11 (Appendix B - Drawing showing soil removal area at SWMU 8 and 11). Soils were removed from areas which were previously sampled and found to exceed 2,000 ppm lead and to a depth sufficient to delineate the extent of lead impacted soil based upon field observations (Appendix D – Field excavation and sampling notes).

Confirmatory samples were collected after contaminated soil had been removed. Seven confirmatory samples were collected directly below the 7 initial surface soil characterization samples which showed lead impact greater than 2,000 ppm. Confirmatory samples were used to define vertical extent of lead impact, confirm field observations and show that all lead impacted soils at or above 2,000 ppm had been removed from SWMU 8 and 11.

A composite sample of impacted surface soil at east and west baghouse showed that the soil was non hazardous (Appendix F – Pace Analytical Lab Report [Composite of Impacted Surface Soil]). CBB removed approximately 200 cubic yards of soil from below the east and west bag house hoppers. The soil removed from this SWMU was temporarily staged on top of visquene plastic liners, and then covered with visquene to prevent surface water contact. Soil was loaded by

CBB into dump trucks and hauled to Johnson County landfill at 17955 Holiday Drive, Shawnee, KS, 66217(Appendix G – Waste Manifests). CBB loaded 160 cubic yards of soil on October. 3, 2003 and loaded the final 40 cubic yards of soil October 7, 2003. The excavation area below east and west baghouses was backfilled with clean aggregate from on-site.

Removing the lead impacted soils at SWMU 8 and 11 from the site has eliminated the potential for human exposure to contaminated soils, thus protecting human health and environment. Proposed cleanup standards were met by removing the soil from site. By removing contaminants the source of release is controlled and eliminated. Waste generated from SWMU removal was disposed of at an authorized and regulated off-site landfill in full compliance with Federal and State standards for management of waste.

Excavation and off-site removal is a proven and reliable technology for long term reliability and effectiveness. By removing contaminated soils from site, the residual risk for potential human exposure through ingestion is eliminated. No long term maintenance is required because contaminants above proposed action levels are no longer present on site.

b. Engineered Barrier with Institutional Controls

SWMU 25

An engineered barrier with institutional controls was selected by CBB as the best clean-up option for SWMU 25 (Drawing showing SWMU 25 and SWMU 26 ~~locations with proposed deed restriction boundaries~~). An asphalt barrier was constructed over the entire surface area of SWMU and at least 50 feet beyond the surface boundaries in all directions. The asphalt will serve as an engineered cap for contaminated soil left in place. Institutional controls in the form of a deed restriction will be implemented (~~Appendix I – Example Deed Restriction~~). The deed restriction will prohibit a future land owner from removing or compromising the integrity of the engineered cap. Additionally, according to current Kansas City zoning restrictions, the area may be used only for industrial.

The engineered barrier and deed restriction eliminates the potential for human exposure to contaminated soils, thus protecting human health and environment. The barrier prevents contact with or ingestion of soils contaminated greater than proposed action levels. The source of release will be controlled by the deed restriction in preventing future land owner from removing or disturbing engineered cap. Residual risk is reduced by eliminating soil ingestion pathway for human exposure. Potential for future exposure is limited by eliminating the soil ingestion pathway. Asphalt capping is a proven and reliable technology for long term reliability and effectiveness. Periodic maintenance may be required to ensure integrity of asphalt cap is preserved. Maintenance of asphalt cap is addressed in property deed restriction (~~Appendix I~~).

SWMU 26

An engineered barrier with institutional controls was selected by CBB as the best clean-up option for SWMU 26 (Drawing showing SWMU 25 and SWMU 26 ~~locations with proposed deed restriction boundaries~~). An asphalt barrier was constructed over the entire surface area of SWMU and at least 50 feet beyond the surface boundaries in all directions. The asphalt serves as an engineered cap for contaminated soil left in place. Institutional controls in the form of a deed restriction will be implemented (~~Appendix I—Example Deed Restriction~~). The deed restriction will restrict a future land owner from removing or compromising the integrity of the engineered cap above the impacted soil left in place and limits the property to industrial use in the future.

The engineered barrier and deed restriction will eliminate the potential for human exposure to contaminated soils, thus protecting human health and environment. The barrier prevents contact with or ingestion of soils contaminated greater than proposed action levels. The source of release will be controlled by the deed restriction in preventing a future landowner from removing or disturbing engineered cap. Residual risk is reduced by eliminating soil ingestion pathway for human exposure. Potential for future exposure is limited by eliminating the soil ingestion pathway. Asphalt capping is a proven and reliable technology for long term reliability and effectiveness. Periodic maintenance may be required to ensure integrity of asphalt cap is preserved.

6. Confirmation Sample Results

The action level for lead is 2,000 mg/kg, based on EPA's Adult Lead Model. Of the seven confirmation soil samples collected, all were below 2,000 mg/kg for lead (Table 1). They include four samples from SWMU 8 and 11 west baghouse and three samples from east baghouse. Pace Analytical Lab Report (Appendix F).

Table 1
Confirmation Soil Sample Results

Parameter	Standard based on EPA Adult Lead Model (mg/kg)	Confirmation Samples	Sample Depth	Sample Result (mg/kg)
Lead, Total	2,000	BHW - N - C	3-5"	29.9
		BHW - E - C	6-8"	144
		FB - 071603	3-5"	149
		BHW - S - C	6-8"	34.1
		BHW - S + 10' - C	3-5"	23.2
		BHE - C - C	4-6"	200
		BHE - N + 10' - C	3-5"	139
		BHE - S - C	3-5"	199

7. Quality Assurance/ Quality Control

Pace Analytical Quality Assurance/Quality Control (QA/QC) data included in final laboratory report (Appendix E). Field QA/QC results are within acceptable range. A blind duplicate sample FB – 071603 was collected at sample location BHE- N+ 10' – C. The results are in the Table 2.

Table 2
Field QA/QC Results

Sample ID	Sample Result (mg/kg)	% Relative Percent Difference	Within acceptable QA/QC limit (+/- 35%)
BHE- N + 10' - C	139	6.70	Yes
FB - 071603	149		

8. Potential Future Use of Property

Upon completion of demolition and remedial activities the site will be redeveloped as a light industrial use park. End users may include, but not be limited to light manufacturing, warehousing and industrial maintenance. Currently there is an operational steel mill on site producing grinding balls used in mining operations and a railcar cleaning and maintenance operation. The industrial cleanup standards and remedial measures implemented to date are consistent with and protective of future workers and/or end users.

9. Summary

The corrective measures implemented by CBB for on-site impacted soil:

- meet criteria that are protective of human health and the environment,
- control sources of contaminant releases to the environment,
- prevent further releases from occurring,
- attain media cleanup standards, and
- comply with applicable standards for the management of wastes.

Upon approval of this cleanup report by EPA, CBB requests that the property encompassing the three SWMU's (8 and 11, 25, and 26) addressed in this report be removed through permit modification from the RCRA post-closure permit currently held by AK Steel. Removal from the Permit is essential for allowing this site to move forward with redevelopment.

Appendix I
Property Deed Restriction

Appendix J
Photos

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